

Use plastic offset blocks that consist of 70 percent low density polyethylene and approximately 30 percent high density polyethylene with a trace of other plastic.

Other compositions may be used if approved by the Office of Materials and Research.

2. Certification

Submit a certification according to Subsection 106.05, "Materials Certification."

B. Fabrication

General Provisions 101 through 150.

C. Acceptance

The Department will accept the material based on the manufacturer's certification.

D. Materials Warranty

General Provisions 101 through 150.

Section 860—Lumber and Timber

860.1 General Description

This section includes the requirements for lumber and timber.

860.1.01 Related References

A. Standard Specifications

Section 502, "Timber structures"

Section 863—Preservative Treatment of Timber Products

B. Referenced Documents

American Softwood Lumber Standard PS 20-70, US Department of Commerce or the National Hardwood Association
ASTM D 245

860.2 Materials

For the definition and limitations of defects, use the current manufacturing association grade rules applicable for the species specified.

860.2.01 Lumber and Timber

A. Requirements

1. Saw or finish all lumber and timber as specified from the plants listed in QPL 50.
2. Grades

Use grade rules from an agency that follows the basic provisions of American Softwood Lumber Standard PS 20-70, US Department of Commerce or the National Hardwood Association.

- a. Furnish all structural timber in the grades, sizes, and finish shown in the Plans and these Specifications, or as directed by the Engineer.
- b. Unless otherwise specified, use No. 2 or higher grade Southern Pine to construct buildings, shelving, and forms.
- c. Mark the grade on the lumber or timber according to the current manufacturing grade rules for the species.

3. Uses

Refer to Table 1 below for the working stress requirements for various structural uses of lumber and timber.

- a. The numerical stress values in the table are based upon stress-graded material meeting the requirements of grading rules for the indicated stress, developed from the ASTM D 245, "Methods for Establishing Structural Grades of Lumber."
- b. You may use commercial stress grades of lumber and timber with grade descriptions if the materials will meet the stress requirements under rules developed from ASTM D 245.

B. Fabrication

1. Seasoning and Preservation: Season and treat according to the requirements of Section 863, except use an assay zone for marine lumber timber of .01 to 1 in (0.25 to 25 mm)

C. Acceptance

The Department will accept the material based on inspection certification or on the results of tests conducted by the Department.

D. Materials Warranty

General Provisions 101 through 150.

Table 1: Working Stress Requirements Based on Structural Uses of Timber

Structural Purpose	Sizes of Members	Extreme Fiber in Bending "f" and Tension Parallel to Grain "t"	Compression Across Grain "C"	Horizontal Shear "H"	Compression Parallel to Grain "C"
Truss members, tension—floor beams and stringers—other floor members.	5x8 in (125 x 200 mm) and larger	1800 (12.41)	455(3.14)	120 (0.83)	1400 (9.65)
Caps—posts, bridge and guardrail—sills—mud sills, nailing strips—truss members, compression—timbers, culvert—fender wales—hub guards.	6 x 6 in (150 x 150 mm) and larger	1400 (9.65)	455(3.14)	105 (0.72)	1050 (7.24)
Joists—decking, wearing—other floor members—rails—rail posts— nailing strips—truss members, compression and tension—guard rail.	4 in (100 mm) and thinner	2050 (14.13)	455(3.14)	120 (0.83)	1600 (11.03)
Sub-decking, flat—Sub-decking, laminated—bracing, Sway, sash and longitudinal—girts—bulkhead plank—scupper blocks—cleats— grillage.	4 in (100 mm) and thinner	2050 (14.13)	455(3.14)	120 (0.83)	1600 (11.03)
Cross bridge—sidewalks—fire stops.	2 in and 3 in (50 mm and 75 mm) thick	1500 (10.34)	390 (2.69)	120 (0.83)	1350 (9.31)
Note: Stresses are given in psi (MPa)					